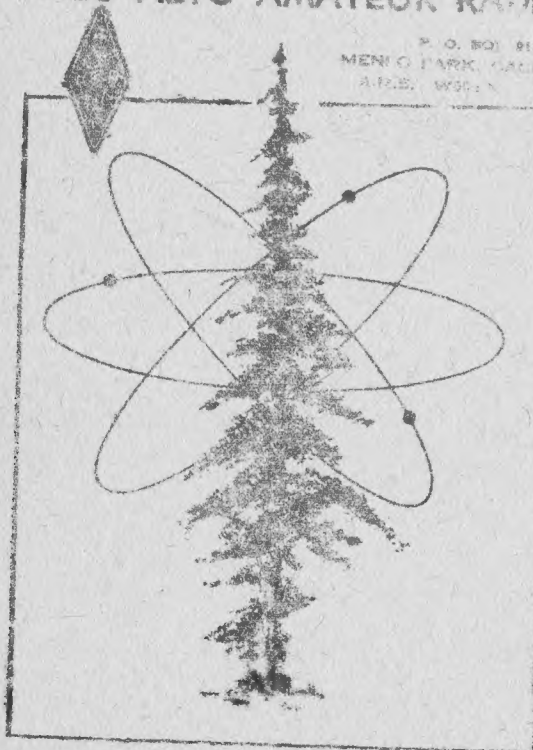


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# P A A R A

# G R A P H I C S

Vol.  
XVI  
1972

Nov. 72

2  
OFFICERS

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Vice Pres: Andy Korask, VE3FZK  
Treasurer: Vance Wardlow, W6FLE  
Secretary: Les Vickery, W6AKR

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CCRC Represnt: Fred Canham  
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Ed Fairbanks W6AIN  
Lee Zalaznik WB6BJB

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W6AIN; Les Vickery W6AKR; Gene Sussli WA6NVU (San  
Carlos Bugle); Eric Reese WB6KQX; Tom Ohlsson WB6KQZ.

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support your club

SUPPORT YOUR CLUB

support your club

(See page 3 for future programs)

COMING EVENTS

-----Friday, November 3, Time: 7:30<sup>pm</sup>; PLACE: Menlo Park Recreation Bldg. PROGRAM: Al L. Clark founder of Interstate Electronics will give a talk on the Mitty Mitter a QRP SSB rig. There also be a Demstartion of QRP. Election of Officers for 1973.

-----Wednesday, November 8, Board of Director meeting of PAARA. PLACE: The PAARA trailer at SRI in Menlo Park. Time: 7:30 PM.

-----December meeting tentative to be held at Marine World.

-----Saturday, December 16th A Chirstmas Party is to be held at Harry's Haufbrau on the El Camio in Redwood City north of Woodside Rd. PRGRAM: Happy hour from 6:00pm to 7:00pm No host Dinner at 7:00pm. Installation of Officers for 1973. Bring you YL or XYL and have some fun at the PAARA Chirstmas Party.

Repeater Docket 18803 Report

In its Action of August 29, 1972 by Report and Order, the FCC made significant Amendments to Part 97 which, while drastically effecting repeater licensing and operations, are of primary concern to all of us. In its original notice of February 26, 1970, the Commission said that it was adopting new rules to permit "the flexibility needed in the Service, and to provide the licensing framework for accomodating future technical and operational advancements in amateur radiocommunicatons". As of October 17, 1972 the new regulations become effective, and I'm sure that there will be many question and many interpretatins. Although these changes result through the Report and Order in the matter of Docket 18803, concerning Repeater stations in the Amateur Radio Service, many of the interesting rule changes are not necessarily concerned with repeater operation. The entire Report and Order is a 24 page document. As we lean back and think about these rule changes, we feel the commision has truly set out to upgrade the concept and prestage of the Amateur Service. (From CCRC Circle)

## CURRENT EVENTS

Page 4

November 1972

Meeting of October 6, 1972

By Les Vickery W6AKR

The meeting was held at the Menlo Park Recreation Center. The attendance was approximately 35. The San Mateo Convention was discussed, and the programs outlined. The club plans to have a swap there; Andy Korsak will demonstrate Amateur-TV. Andy presented the committee nominations for officers for 1973. Additional nominations may be made at the next meeting. Andy reported the 2-meter project transmitter is working, and had the prototype there for inspection. Fred Canham announced that the auction plans will be completed at the Board meeting on October 11th. The program was given by Roger Biros, W6KUN, and Larry Tadeircz of the National Semiconductor Corporation. They presented a wide variety of fascinating applications of integrated circuits in regulated power supplies, oscillators, amplifiers, and digital circuits. Catalogs and application notes were passed around. This was a most productive program in presenting exciting new applications in the state of the art of IC'S.

BOARD MEETING October 11, 1972.

The meeting was held at the club trailer, with President Fred Canham presiding. The minutes of the previous board meeting, and the treasurer's report were read and approved. The Club is purchasing five 2-meter, 100 milliwatt "MINI-MITTERS" for sale to club members at \$35.00 each. Committee reports on auction donations were given. Auction plans for October 13th at the Ampex Cafeteria were finalized. Auction details and assignments were the main items of the meeting. Andy Korsak reported on the 2-meter project, and plans for amateur-TV demonstrations at the San Mateo Convention. Reservations for the Christmas party were discussed, with the need for finding a larger place than last year. Lee Zalaznik will be resigning as managing editor of PAARAGRAPHS in two months, and some one will be needed to continue this very important work. It was agreed that the membership list should be updated twice a year.

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SUPPORT THE CLUB.

Join the new code class - Call John Cameron 325 7737



PAARA AUCTION

By Vance Wardlow

The PAARA annual auction held in the cafeteria of the AMPEX Corporation on Bay Road in Redwood City on 13 October 1972 was well attended. Donations were made by Quement Electronics, Red Johnson Electronics, Ham Radio Outlet, U-Do Electronics, U.S. Electronics, Haltek Electronics, Wenger Electronics.

The principal auctioneer was Jerry Starkey WA6LLJ; assisting were Fred Canham, W6QWF and Andy Korsak, VE3FK. Registration, lot number assignment and swap tables sales were handled by Les Vickery, W6AKR and Bob Baum, W6BFH. The raffle was handled by Paul Churchill, W6QBT. The PAARA swap tables were handled by Andy Anderson, K6EHS; Gene Reynolds, K6QOM; and Bruce Wilbur, WN6SSR. The coffee and doughnut disbursement was handled by Ed Fairbanks, W6AIN.

Assistance in the drayage and movement of auction and swap material from the parking lot to the auction scene was handled by Andy Korsak, VE3FK assisted by Tom Ohlsson, WB6KQZ Steve Montoya, WN6DCT; Paul Thekan, WN6DQU Eric Reese, WB6KQX; John Cameron, (NC); and two member of the San Carlos Club.

Record of sales by Lot number, amount and PAARA percentage was handled by Hal Moore, W6DEF; all monies were handled by Vance Wardlow, W6FLE. All of the above and several volunteers participated in setting up the tables, chairs, removal of tables set-ups and the final returning of the cafeteria to normal conditions.

## Prizes won by our members:

PAARA AUCTION: Paul Thekan, WN6DQU - \$10.00 Gift Certificate.

GBAHF: John Cameron (NC) - SBE single Sideband Engineer SB36 with separate power supply. A transceiver with 500 W PEP out and a digital readout down to 100 cycles.

Sale price about \$1200.00.

Larry Lar Rieu, WA6UIM, a digital clock.

*For that code class call the teacher - Paul Thekan - 369 4034*

SUPPORT THE CLUB

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### THYRISTORS

What is a thyristor? It is any semiconductor switch whose bistable action depends on p-n-p-n regenerative feedback. Thyristors can be two, three, or four terminal devices, and both unidirectional and bi-directional devices are available. The most famous unidirectional thyristor is the SCR, silicon controlled rectifier. Other are SUS, silicon unilateral switch; LASCR, light activated silicon controlled rectifier; CSCR, complementary silicon controlled rectifier; GTO, gate turn-off switch; PUT, programmable unijunction transistor; and the SCS, silicon controlled switch. Shockley diode is a reverse blocking diode thyristor. (From CCRC)

### PROJECT SANGUINE

Did you hear that the U.S. senate rejected an amendment to bar Navy plans to construct the Project Sanguine, Extra Low Frequency (ELF) transmitter in Wisconsin. This billion dollar monstrosity would have an antenna farm covering some 150 square miles and fed by numerous multi-megawatt underground transmitters. Needless to say, some Wisconsin natives are a little bugged by this proposal. As Electronic News put it: "Transmissions below 100 Hz, as reported, are known to be able to produce localized interference with power lines and other communications by flickering lights and TV receiver signals, and buzzing radios! Man, I'll bet Wisconsin Bell considers that sentence an understatement. If you're listening down around 68 Hz some evening you may find a loud RTTY signal to copy. When your lights stop blinking, you can read the hot scoop being passed to some submarine submerged off the south tip of Pule Pula. (ibid). (From THE FOOTPRINT)

### DID YOU KNOW?

The only major powers which have not converted to the metric system are: Barbados, Gambia, Tonga, Liberia, Muscat and Oman, Sierra Leone, Southern Yemen, Trinidad and the United States.

(From ACTIVE KEYS)

### CLUB DUES FOR PAARA

For most members their dues become due on JAN, 1st, so pay early and avoid the rush. Pay at the next meeting or send to PAARA.

## FOR SALE OR BUY

Ham going to college For Sale : Ten Tac RX10 Reciver \$50.00, DX40 transimtter \$30.00, (5) Novice 40meter Xtals \$1.00 each, Ten Tac QRP Transmitter \$5.00, Speech Clipper \$5.00, Common Subminature tubes (unused) \$1.00 each, BOOKS "Learning the Radiotelegraph Code" \$.10, "Advanced Class Radio Amatuer Licsense Guide" \$.25, "Understanding Amateur Radio" \$1.00, "SSB for the Radio Amateur \$1.00, "'69 ARRL Handbook" \$2.00, 48 back issues of 'ST&C' \$0.00. Complete station: All mentioned above except the tubes. Includes Coax, TR DPDT Knife switch, connectors, ant., insulators, headphones. \$90.00. Cash accepted only Call 321-6459, Ask for Ernest.

ARRL NEWS

The ARRL, San Francisco Section, Section Communications Manager (SCM) position is scrambled again. After Mc Taggert, K6SRN, at Sonoma, resigned Six months ago SF went without an SCM until last month's election. In the election, Hal Littlefield, W6WLV, at Santa Rosa, nosed out Tom Gallagher, W6NUT, of San Francisco. Because of poor health, ARRL Headquarters then appointed W6NUT "acting SCM" until a new election could be held. So SF will start all over again.

REWARD

Contact Ted Harris W8RPA

A reward of 5,000 microfarads is offered for information leading to arrest of Hopalong Capacity. The unrectified criminal escaped from a Weston primary cell where he had been clapped in ions. He is charged with the induction of an 18 turn coil called Millihenery, who was found ckcked and robbed of a valuable joules. He is armed with a carbon rod and is a potential killer. He has also been accused of driving a Wheatstone Bridge and refusing to let the band pass. CAUTION: If encountered, he may offer a series resistance. The electromotive force spent the night looking for him in a magnetic field where he had gone to earth. They had no success and now believe that he has returned ohm via a short circuit. He was last seen with his friend Eddy Current, riding a Kilocycle .... Eddy was playing a harmonic. Charges against him are under Chms Law. (From The Foot-print.)

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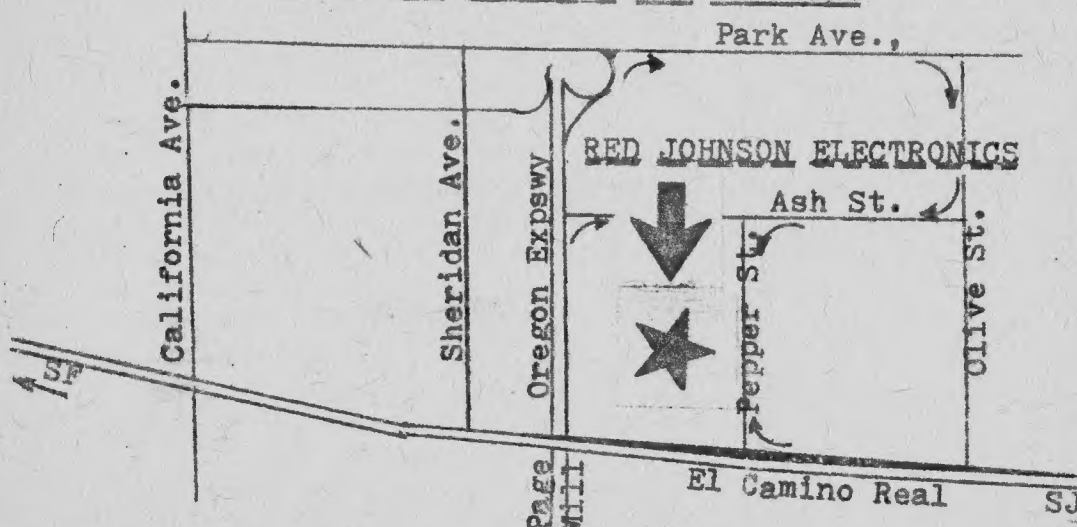
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PACIFIC DIVISION ARRL CONVENTION AND BAY AREA HAMFEST

By Richard Ferrani  
WN6NCX

Having attended the Hamfest on Sunday, I was most impressed with the turnout, enthusiasm, and general high-spirited nature of the group of about 700. The most important aspect of the talks was the emphasis on expansion of existing amateur bands. In this respect A. Prose Walker, head of the Citizens and Amateur Radio Services of the F.C.C., gave an excellent half-hour long talk. W4BW's main points are as follows:

Within the next decade there will be another meeting for frequency allocation purposes of the ITU in Geneva, Switzerland. According to trends now, Mr. Walker predicts that the existing 284,000 hams in the U.S. will become from 600,000 to 800,000 in number by 1980 as a worldwide figure. We need all the space we can get--the QRM is bad enough now!

With this expansion in population in mind, Mr. Walker proposed an excellent 5-point plan of action--action we must start NOW so we can be ready when the time comes for the ITU meeting. The reasoning is clear: now that satellite communications have proved their reliability, and cable high-density telephone lines are a reality, many of the fixed and mobile services now on the HF bands are moving to this newer and more reliable source of communications. We, the amateur, could get the space emptied by these services--if, W4BW stresses, we start NOW with the following proposals:

1) We should send up a near-synchronous-orbit satellite by 1976. This would show nations with limited budgets the potential that a satellite could open up in terms of communication. Most impressive would be a portable ground station which could be utilized in various geographic locations for demonstrational purposes. OSCAR is up now--not too much effort could bring about another space-triumph such as this.

- 2) We should facilitate a new HF program--now--
- A) Get all of 160 meters back.
  - B) Make 80 meters exclusive amateur.

(cont. to Page 10)

PDACBAH (cont. from Page 9)

- C) Remove the 7MHz broadcasters.
- D) New Band: 10.5--11MHz.
- E) Expand 14.0--14.5--make it exclusive amateur.
- F) New band--17.5--18.0 or 18.0--18.5 MHz.
- G) Expand 21.0--21.5 MHz.
- H) New Band: 23.5--24.0 MHz.
- I) 10 meters expanded 28--30 MHz.

3) We should for a professional team for allocation studies. This year-round study, continued for a period of years, would include propagation and amateur frequency problem studies.

4) We need extraordinary effort from the IARU members. For a proposal of be considered 12 countries must back our ideas. Mr. Walker emphasised the fact that we are of high--calibre--that is, there are people who can open doors in our organization. We must utilize these people for support of ham radio.

5) Professional people should be our representatives at the ITU meeting. We have the talent--let's use it.

What price, then, is failure? If our population grows and our bands decrease or even reamian asthey are, would ham radio survive? Probably not, unless we severly limit our bandwidth, power, and make a big push for the narrowest emission--CW. If we want our hobby, we must, as A. Prose Walker said, "Our talent is adequate--we must seek out and use our professionalism". "NOW IS THE TIME"

#### MEMBERS WHO HAVE JOINED

PAARA welcomes the new members who have joined during the past month:

Dr. Michael J. Eccles G3PPE/W6  
 30 Rosevelt Circle  
 Palo Alto, Ca. 94306 Phone 327-4484

(cont. to page 12)

ARRL OFFICIAL BULLETINS

#357 August 24

Announcement is hereby made of two actions taken concerning the DXCC. Effective October 1, the Maria Theresa listing is removed from the Countries List and all credits which have been given will be annulled. Also effective October 1, Minerva Reefs will become a deleted country and only contacts made prior to July 15, 1972 will be creditable towards this listing. The Kingdom of Tong has annexed Minerva Reefs. Because Minerva is less than 500 miles from Tong, it no longer meets the criteria for separate status. These actions are in accord with recommendations made by the ARRL DX Advisory Committee. Full details appear on page 106 of September QST.

#389 September 7

Two new editions of popular ARRL directories are now available for distribution. The current revision of the Repeater Directory, detailing 615 repeaters, requires an addressed envelope larger than 6 by 9 inches, with 24 cents postage for first class mailing. The 1972 Net Directory can be sent first class in an addressed legal size envelope with 16 cents return postage. For both directories, send the larger envelope with 32 cents postage. Directories have been mailed to those filing earlier requests.

#390 September 14

FCC has now acted in the matter of Docket 19163, regarding the Extra Class license. Effective October 27, 1972, the rules will be amended to provide a waiting period of one year under license, rather than two, as a condition of eligibility to take the extra exam. Present holders of Advance Class who at one time held the old Amateur extra First ticket and have been continuously licensed since, will get credit for the 20 wpm code test for the extra exam. Such credit will also be granted holders of certain commercial operator licenses where the code requirement is comparable. Further details will appear in November QST.

\*\*\*\*\*

A genius--- is a screwball who makes a crackpot  
idea work.

NEW MEMBERS (cont. from page 10)

Richard Ferranti WN6NCX  
1234 Santa Cruz Ave.  
Menlo Park, Ca. 94025 Phone 324-1539

Vern Rathfelder, W6OMY  
141 Wellesley Cres. Apt. 201  
Redwood City, Ca. 94062 Phone 368-6208

M. A. Majster SP5-1157  
491 James Road Apt. D.  
Palo Alto, Ca. 94306 Phone 493-7750

Their full QTH's are given so that all PAARA members can update their address lists.

A SIDE NOTE

In the October Issue of CST on page 90 there is a picture of Fred Canham, W6QWF and Ed Fairbanks W6AIN. Here is what it said, " This is the 20th year an amateur radio net has assisted with the All-Women Trans-Continental Air Race (Power Puff Derby). Starting times are reported on 2-meters and checkpoints across the country are tied together on 20 and 40. Pictured is Palo Alto A.R.A. station W6OTX, Manned by W6AIN and W6QWF. A 2-meter station is in the background." Good going Fred and ED.

A note from Warren Davis, K6PQI worked all counties in California in 6 months. He has WACC #91.

Mrs. Hal Moore, W6DEF, \$10.00 gift certificate for Ham Radio Outlet plus a \$5.00 credit toward the purchase of a \$200.00 2 meter rig.

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ARPS

By Hal Moore W6DEF

Recently a couple of interesting things have happened involving members of the Redwood City C.D. and Disaster Communications Net members. Sunday September 24th at about 10:15 AM Chief John Keller called a surprise mock earth-quake drill. The drill only lasted about an hour and then there was a briefing at Firehouse number 1 for those who could conveniently attend. Participating were K6ANN, K6MPN/6 WA6AIX/M, WB6MED/M and W6DEF/M. Several others called in to see what was going on and would have taken an active part if they could have found the time. A number of messages were handled from the various Fire Captains to the Sequoia Hospital and to Fire House Number one at the Civic Center. Thanks to the Captains from Chief Keller were accepted by the mobiles and delivered.

At the briefing the members of the net did most of the talking describing their difficulties and how they went about solving the problems. Chief Keller and Captain Hund did the listening. They were pleased with the results. They indicated that there would be another surprise drill in the near future.

The communications for the Mexican Independence Day parade was handled with efficiency. We make mistakes but profit by them and never make the same error twice. That's the word from our Radio Officer Dick Collins K6ANN. He wishes to thank all of those who participate in these interesting events.

" A SIDE THOUGHT "

BY Ed K6UWY  
(From THE CHEWED RAG)

You know --we grip and moan-- sometimes rightfully so about the ARRL- but contemplate five years from now-- some young kid about to set up his first mobile rig and no handbook to use as a reference.

At time like that if you have the ability to put yourself in his place. Where does he go for information? Think about it awhile. The airwave could get pretty lonely. Boy the commercial boy would sure have a ball.

TECHNICAL TOPICS de Andy VE3FZK/W6  
\*\*\*IMPORTANT NOTICE\*\*\*

New FCC RULES - HF PHONE BAND EXPANSIONS  
NOVICES HAVE NEW PRIVILEGES

Effective Nov. 22, phone will be allowed for "extra" licensees down to 7.15, 3.775, 21.25MHz. Novies will be able to use VFO's and the new novice bands on 40 and 15 will be 7.1 to 7.15 and 21.1 to 21.2. Also, a new band from

28.1 to 28.2, but 2 M will be lost for novices. Full details will appear in Nov. QST.

\*\*OSCAR-6 UP AND AWAY!\*\*\*

During the Ham fest banquet, on Sun., Oct. 15, Chuck Towns K6LFH, President of PROJECT OSCAR, INC., announced OSCAR-6 had just gone up from Vandenberg AFB and that successful 2-way QSO's just took place. Chet Hall W6INC of Project Oscar called me at SRI to say he heard himself through it but couldn'tt work anybody so far. He heard lots of 1s, 3's, etc. so the thing is really working well! Some of you may remember the airplane "fly-by" test we had of this package a year ago in September.

For details on times of OSCAR orbit passes, listen to WIAW bulletins (see Oct. QST, p. 61, 130 for more details) or just take a listen on 10 around 29.45 (the OSCAR beacon freq.) and if you hear it, you can work through it.

\* \* \* \* \*

\* \* HAM RADIO MAY RESCUE BOGGS \* \*

I just read in today's paper that some hams in Nevada, City, Calif., picked up CW distress signals saying that a plane that ~~crashed~~ landed near Juno, Alaska. Based on these reports, army rescue teams are now searching the area and maybe by the time you read this, poor Mr. Boggs might be located -- thanks to AMATEUR RADIO PUBLIC SERVICE. So, let's get on with our 2-meter project and maybe we can soon

"claim to fame" also. Eventual usefulness for public service is one of the major motivations for this project (see next paragraph).

\*\*\*\*\*

## 2-METER PROJECT

### Transmitter

I finally gave the club's 2-meter project prototype transmitter the "proof of the pudding" test -- I put it on the air and worked Hal Moore W6DEF with it on FM (but listening on AM since I still don't have an FM receiver working properly.) Hal gave me an excellent signal report -- the modulation was perfect.

Bob Baum came over to my garbage {oops! - I mean garage, recently and got most of the parts needed for this transmitter out of the club's parts kitty. So pretty soon we will have two prototypes working. We now have some minor modifications to the original design of Cliff W6HDO, which should make it easier to get to work. Any others wishing to start building this circuit, see me at the next meeting or give me a call at 326-6200 x 2853 or 854-2759. Don't forget the club's parts kitty, before buying any parts.

Vance, W6FLE ordered 5 little 3 x 3 complete 2-M transmitters advertised in CQ, which put out 100 mw. and come complete with Xtal and mike. They arrived yesterday and I went over to Vance's QTH to help him try one out - worked a charm, so if you prefer not to build a transmitter, you can buy one of these at the next meeting. Take your choice -- I intend to put pressure on all club members to build one or buy one, so we can all on call for possible emergency service -- so if you like these, they will be available through the club (at \$35 each, as we'll get them in quantity, with a 12-14V to 9V regulator).

### POWER SUPPLY

Les Vickery W6AKR displayed a regulated 12 and 18



volt power supply on two prototype circuit boards at the last PAARA board meeting. This was his assignment in the 2-meter project, and he now has a working model. The 18 volt output was required for running the phase lock loop in my prototype receiver (which I have to get back to one of these days.)

#### RECEIVER

As I mentioned last month, you can start getting on 2-M FM by building the club's Xmtr and the receiver in Sept. QST. I passed the board for this rx around at the last meeting, and I have made a photocopy of it so anyone wishing to etch a board contact me. Also, John Ellison W6AOI is working on another design that will have the advantage of tunability so you don't have to buy so many xtals for the various repeaters. He achieves stability of tuning by double conversion and tuning of the second oscillator.

#### PC BOARDS AVAILABLE

Various construction projects in QST over the past year or so have circuit boards available through Spectrum Research Labs, Inc. and I have a list of prices. Included are the following: SSB generator board, \$7.50; Keyer board, \$3.50; FM Rx (Aug. 72), \$5.45; FM Tx (Sep. 72), \$4.70.

#### COLOR TV CAMERA

spent

Wayne W6URH and I many nights trying to complete a working color camera by the time of <sup>the</sup> hamfest, but we didn't make it. The principal delay was trying to obtain good optical filters required by the design we are using. These were to be made for us at SRI by an expert on such things, but he got too busy with more important (like money-making) projects until recently. Anyway we finally proved basic feasibility of the "striped camera" idea for amateur construction, using poorer quality filters I made. However, the subcarrier video (carrying the color information) was of very poor quality with my "homebrew" filters, and the "good" ones made by SRI somehow wouldn't work at all so far. It seems I goofed in some calculations.

*Learn the Code - Increase Your speed - Call 325 7737*

SAN CARLOS BUGLE

By Gene Sussli WA6NVU

At our last meeting we honored our old-time member Bill Jackson, W6OWQ on a unanimous vote Bill was declared the most valuable Operator- Field Day 1972. Bill really deserved this honor and will have his name engraved on a special plaque which we display at our club station at the Firehouse #2 in San Carlos. For many of these years past, Bill served as Field Day Chairman for our club and organized the players and their toys, beside that he always operated a station on 20 meters phone. This year, Bill spent the full 24 hours of the contest at his rig and got results. His total fo 529 contacts beat out his clostest competition by more than one hundred QSO'S. Thanks, Bill, For a job well done.

As required by our constition, September is the month new officers must be nominated for the new fiscal year. Unfortunately, our attendance this month was rather small. I have to presume that everyone is getting ready for the up comming picnic. Here are the nominations:

President: Bill Jackson, W6OWQ

Vice-Pres. Mike Bach, WB6FFC

Gordon Spalding, KH6HFT/W6

Treasure: Bill Burris, WA6CXJ

Searetery: Dan Lutz

now, there won't be a big contest except for the office of the V-P. However, I hope that every member of the club will show up next month, vote for his candidate, and show the new officers that they are willing to support them.

Don't forget the Greater Bay Area Hamfest this October 14 and 15 at the Royal Coach Inn in San Mateo. I hope to see many familiar faces at this affair. This is the first time in many years that this gathering of hams is held on the Peninsula. So, attend the seminars and listen to the excellent speakers which are invited. Don't forget the San Carlos Radio Club will have a booth of our own and well present Amateur TV in living Color ( black and white) that is. By the way, we still need some volunteers to help operate the projectors to make it a continuous show. So if you have a few hours to spare, please give me a call at my home (349-6179).

# HALTEK ELECTRONICS

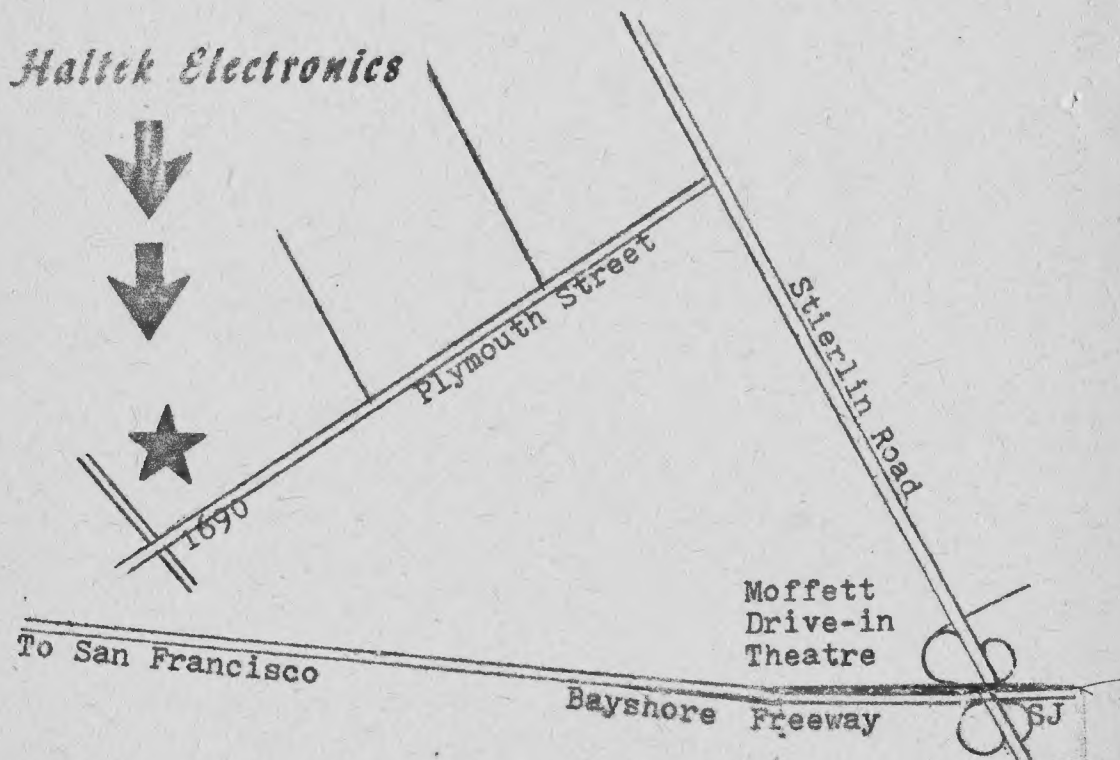
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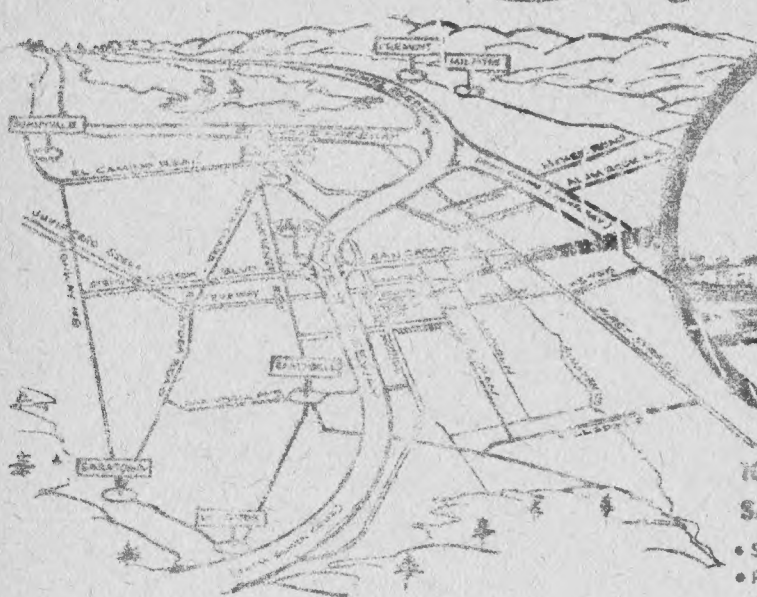
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